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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/033,166 | 01/02/2002 | Amnon A. Strasser | Q67365 | 7392 |

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| ART UNIT | PAPER NUMBER |
|---|---|
| 2167 | |

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/033,166 | STRASSER ET AL. | |
| | Examiner | Art Unit | |
| | Leslie Wong | 2167 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *02 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-94* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-94* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03June&06 Nov 2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Information Disclosure Statement*

1. Applicants' Information Disclosure Statements, filed 03 June 2003 and 06 November 2003, have been received, entered into the record, and considered. See attached form PTO-1449.

### *Examiner's Remarks*

**2.** Regarding claim 69, Examiner interprets the claim limitation: **"a memory comprising software instructions** *adapted to* **enable the computer system to perform..."** to mean **"a memory comprising software instructions** *for* **enabling the computer system to perform..."**

The term "*adapted to*" in claims 71-73, and 75-88 will be interpreted in a similar fashion as indicated above.

The application will be examined according to the given meaning.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4-6, 10, 13-19, and 22-24 are rejected under 35 U.S.C. 102(e) as being anticipated by **Ofek** ("Ofek") (U.S. Patent 6,487,561 B1).

Regarding claim 1, **Ofek** teaches a computer network backup system comprising:

a). at least two backup devices (Fig. 11A, element 111 and 112);

b). at least one file source (Fig. 11A, element 114);

c). a control unit comprising a control program that directs files from said file source to said backup devices, wherein said control program splits files into file segments, thereby equalizing the archival load between said backup devices (col. 4, lines 23-38; col. 16, lines 40-42);

d). a communications link coupled between said backup devices, said file source and said control unit (col. 14, lines 45-67; Fig. 8).

Regarding claim 2, **Ofek** further teaches wherein said backup device a hard disk, an optical disk, a magnetic tape drive or a non-volatile random access memory (col. 40, lines 1-3; Fig. 30 and Fig. 11A, element 113).

Regarding claim 4, **Ofek** further teaches wherein said file source is a storage device, a hard disk, a random access memory, a programmable non-volatile memory, a redundant array of independent disks (RAID), incremental backup data, snapshot data, a file system, a distributed file system or a location independent file system (col. 5, lines

35-43; col. 27, lines 10-21).

Regarding claim 5, **Ofek** further teaches wherein said file source is comprised of at least two independent file sources (Fig. 11A).

Regarding claim 6, **Ofek** further teaches wherein said communications link is a local area network (LAN), a wide area network (WAN), a peripheral component interconnect (PCI) or an InfiniBand (Fig. 5, element 56; col. 7, lines 7-9).

Regarding claims 10 and 19, **Ofek** further teaches the steps of:

a). splits files that exceed said segmentation threshold value into file segments, wherein each of said file segments does not exceed said segmentation threshold value (col. 4, lines 23-38);

b). sorts files located in said file source and said file segments into a sorted list (col. 38, lines 53-61); and

c). writes files smaller than said segmentation threshold value and said file segments into said backup devices according to said sorted list (col. 38, lines 41-52).

Regarding claims 13 and 14, **Ofek** further teaches wherein said control program receives notification of backup device failure (col. 6, lines 1-5).

Regarding claims 15, 16, and 24, **Ofek** further teaches wherein said control

program writes said files and said file segments to the then least filled-up backup device (col. 6, lines 32-50).

Regarding claims 17 and 22, **Ofek** further teaches wherein said control program attaches a header to each of said file segments (col. 20, lines 30-35; Fig. 12).

Regarding claims 18 and 23, **Ofek** further teaches wherein said file segment header comprises at least one of an offset field or a size field (col. 6, lines 5-30 and Fig. 17).

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ofek et al.** ("Ofek") (U.S. Patent 6,487,561 B1) in view of **Dysert** (U.S. Patent 6,804,690 B1).

Regarding claim 3, **Ofek** teaches said parallel backup system (col. 11, lines 57-58).

**Ofek** does not explicitly teach wherein said parallel backup system is geographically distributed.

**Dysert**, however, teaches backup system is geographically distributed (col. 1, lines 38-39).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of the cited references because **Dysert's** teaching would have allowed **Ofek's** to provide a high level of fail safe fault tolerance and allow data access during a backup or restore operation by storing the data on separate storage devices and in different geographical locations as suggested by **Dysert** at col. 1, lines 38-41.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ofek et al.** ("Ofek") (U.S. Patent 6,487,561 B1) in view of **Cabrera et al.** ("**Cabrera**") (U.S. Patent 5,854,754).

Regarding claim 7, **Ofek** does not clearly teach wherein the protocol of said communications link is Ethernet, Internet protocol (IP) or asynchronous transfer mode (ATM).

**Cabrera**, however, teaches wherein the protocol of said communications link is Ethernet, Internet protocol (IP) or asynchronous transfer mode (ATM) (col. 12, lines 5-32).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of the cited references because **Cabrera's** teaching would have allowed **Ofek's** to provide mechanisms to enable communicate within a network of computers by utilizing conventional network protocol.

**8.** Claims 8-9, 11-12, 20-21, 25-91, and 93-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ofek et al.** ("Ofek") (U.S. Patent 6,487,561 B1) in view of **Pongracz** (U.S. Patent 6,003,044).

Regarding claims 11-12 and 20-21, **Ofek** further teaches sorting of file segments (col. 38, lines 53-61).

**Ofek** does not explicitly teach wherein said files and said file segments are sorted in descending/ascending order based upon file size.

**Pongracz**, however, teaches files and said file segments are sorted in descending/ascending order based upon file size (col. 5, lines 34-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of the cited references because

**Pongracz's** teaching would have allowed **Ofek's** to enable the backup system to retrieve files in a most efficient manner by first sorting the file identifiers in the backup set to facilitate file allocation process as suggested by **Pongracz** at col. 5 lines 38-40 and lines 55-61.

Regarding claims 8 and 9, **Ofek** further teaches segmentation threshold value (col. 39, lines 60-64).

**Ofek** does not clearly teach summing the sizes of all files in said file source and dividing the result by the number of said backup devices.

**Pongracz**, however, teaches summing the sizes of all files in said file source and dividing the result by the number of said backup devices (col. 6, lines 31-61).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of the cited references because **Pongracz's** teaching would have allowed **Ofek's** to calculate the segmentation threshold value in order to determine the optimum value of a segment for the backup system the work in a most efficient manner.

Regarding claims 25, 29, 48, 50, and 69, **Ofek** teaches a method, a computer software product and system for file backup using a parallel backup system comprising at least one file source and at least two backup devices, the method comprising:

b). directing said files from said file source to said backup devices (abstract).

a). **Ofek** does not explicitly teach calculating a segmentation threshold value

**Pongracz**, however, teaches summing the sizes of all files in said file source and dividing the result by the number of said backup devices (col. 6, lines 31-61).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of the cited references because **Pongracz's** teaching would have allowed **Ofek's** to calculate the segmentation threshold value in order to determine the optimum value of a segment for the backup system the work in a most efficient manner.

Regarding claims 26, 27, 49, and 70, **Ofek** further teaches wherein said backup devices are geographically distributed (col. 6, lines 1-5).

Regarding claim 28, **Ofek** further teaches wherein said backup device a hard disk, an optical disk, a magnetic tape drive or a non-volatile random access memory (col. 40, lines 1-3; Fig. 30 and Fig. 11A, element 113).

Regarding claims 30, 38, 44, 51, 59, 65, 72, and 80, **Ofek** further teaches the steps of:

a). splits files that exceed said segmentation threshold value into file segments, wherein each of said file segments does not exceed said segmentation threshold value (col. 4, lines 23-38);

b). sorts files located in said file source and said file segments into a sorted list (col. 38, lines 53-61); and

c). writes files smaller than said segmentation threshold value and said file segments into said backup devices according to said sorted list (col. 38, lines 41-52).

Regarding claims 31, 45, 52, 66, 73, and 87, **Ofek** further teaches wherein said control program attaches a header to each of said file segments (col. 20, lines 30-35; Fig. 12).

Regarding claims 32, 46, 53, 67, 74, and 88, **Ofek** further teaches wherein said file segment header comprises at least one of an offset field or a size field (col. 6, lines 5-30 and Fig. 17).

Regarding claims 33-34, 39-40, 54-55, 60-61, 75-76, and 81-82, **Ofek** further teaches sorting of file segments (col. 38, lines 53-61).

**Ofek** does not explicitly teach wherein said files and said file segments are sorted in descending/ascending order based upon file size.

**Pongracz**, however, teaches sorting file segments in descending.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of the cited references because **Pongracz's** teaching would have allowed **Ofek's** to enable the backup system to retrieve files in a most efficient manner by first sorting the file identifiers in the backup set to facilitate file allocation process as suggested by **Pongracz** at col. 55 lines 38-40 and lines 55-61.

Regarding claims 35, 41, 42, 56, 62, 63, 77, 83, and 84, **Ofek** further teaches herein the method further comprises concurrently writing said files and said file segments to said backup devices (col. 20, lines 19-29).

Regarding claims 36, 43, 57, 64, 78, and 85, **Ofek** further teaches wherein the method further comprises writing said files and said file segments in accordance with their ordered position in said sorted list (col. 38, lines 53-61; col. 20, lines 41-51).

Regarding claims 37, 47, 58, 68, 79, and 89, **Ofek** further teaches wherein said control program writes said files and said file segments to the then least filled-up backup device (col. 6, lines 32-50).

Regarding claims 90, **Ofek** teaches a method for calculating a size threshold (col. 39, lines 60-64) in a parallel backup system comprising at least a file source and at least two backup devices, the method comprising:

**Ofek** teaches segmentation threshold value (col. 39, lines 60-64).

**Ofek** does not clearly teach summing the sizes of all files in said file source and dividing the result by the number of said backup devices.

**Pongracz**, however, teaches summing the sizes of all files in said file source and dividing the result by the number of said backup devices (col. 6, lines 31-61).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of the cited references because

**Pongracz's** teaching would have allowed **Ofek's** to calculate the segmentation threshold value in order to determine the optimum value of a segment for the backup system the work in a most efficient manner.

Regarding claim 91, **Ofek** further teaches wherein said parallel backup system is distributed (col. 20, lines 19-29).

Regarding claim 93, **Ofek** further teaches wherein said file source a storage device, a hard disk, a random access memory, a programmable non-volatile memory, a redundant array of independent disks (RAID), an incremental backup data, a snapshot data, a file system, a distributed file system or a location independent file system (col. 5, lines 35-43; col. 27, lines 10-21).

Regarding claim 94, **Ofek** further teaches wherein said file source is comprised of at least two independent file sources (Fig. 11A).

9. Claims 92 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ofek et al.** ("Ofek") (U.S. Patent 6,487,561 B1) in view of **Pongracz** (U.S. Patent 6,003,044) as applied to claims 25-91 and 93-94 above and further in view of **Dysert** (U.S. Patent 6,804,690 B1).

Regarding claim 92, **Ofek** further teaches said parallel backup system (col. 11, lines 57-58).

**Ofek and Pongracz** do not explicitly teach wherein said parallel backup system is geographically distributed.

**Dysert**, however, teaches backup system is geographically distributed (col. 1, lines 38-39).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of the cited references because **Dysert's** teaching would have allowed **Ofek- Pongracz's** to provide a high level of fail safe fault tolerance and allow data access during a backup or restore operation by storing the data on separate storage devices and in different geographical locations as suggested by **Dysert** at col. 1, lines 38-41.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dunham (U.S. Patent 6,353,878 B1)

Tormasov et al. (U.S. 2002/0147815 A1)

Wright et al. (US 2003/0200392 A1)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie Wong whose telephone number is (571) 272-4120. The examiner can normally be reached on Monday to Friday 9:30am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leslie Wong
Patent Examiner
Art Unit 2167

LW
November 17, 2004